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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,055	11/24/2003	Krishna M. Ravi	HES 2002-IP-008094U/2	3248
7590 CRAIG W. RODDY HALLIBURTON ENERGY SERVICES GROUP 2600 SOUTH SECOND STREET, Mail Drop 0440 DUNCAN, OK 73536				
EXAMINER				
KUGEL, TIMOTHY J				
ART UNIT		PAPER NUMBER		
1796				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/721,055

**Applicant(s)**

RAVI ET AL.

**Examiner**

Timothy J. Kugel

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1.6-22, 24-34, 36-47, 50-59, 88 and 89 is/are pending in the application.
- 4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1.6-22, 24-31, 34, 36-47, 50-59, 88 and 89 is/are rejected.
- 7) ☒ Claim(s) 32 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-848)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 03/31/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1, 6-22, 24-34, 36-47, 50-59, 88 and 89 pending as amended on 29 February 2008, claims 2-5, 23, 35, 48, 49 and 60-87 being cancelled.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.
3. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office action.
4. Since no prior art was found that anticipates or renders obvious the elected species of hydrophobic silane, the search of the Markush-type claim was extended and further claim 33 has been rejoined and fully examined.

***Response to Amendment and Arguments***

5. Applicant's amendment, filed 29 February 2008, specifically limiting independent claims 11, 44 and 47 to drilling operations, has been fully considered and overcomes the following:

The rejection of claims 1-3, 5-7, 11, 13, 14, 17, 18, 24, 26-30, 41, 43, 44, 46-48, 50-52, 54-56, 58, 88 and 89 under 35 USC 102(b) as being anticipated by US Patent 3,145,773 (Jorda hereinafter) has been withdrawn.

The rejection of claims 1-7, 11-22, 32, 34, 36-38, 40, 41, 88 and 89 under 35 USC 102(e) as being anticipated by Application Publication 2004/0171499 (Ravi hereinafter) has been withdrawn.

6. Applicant's arguments, filed 29 February 2008, have been fully considered but are not persuasive.

Applicant asserts that US Patent Application Publication 2004/0144537 (Reddy hereinafter) has been disqualified as prior art as not by "another" due to the declarations filed 23 July 2007; however, such declarations are deficient for the reasons of record.

Applicant further asserts that the response filed 31 January 2007 contained a statement of common ownership regarding Reddy; however, upon an additional reading of said response no such statement could be found, although one regarding Ravi was made at that time.

Applicant further argues that none of Reddy, Jorda or US Patent 3,256,936 (Johnson hereinafter) teach or suggest all of the limitations of the instant claims, specifically the drilling and circulating limitations currently added to the claims; however, as shown below, both Reddy and Johnson teach such limitations.

***Claim Rejections - 35 USC § 102***

7. Claims 1, 6, 7, 11-22, 24-29, 40, 41, 43-47, 51-59, 88 and 89 stand rejected under 35 USC 102(e) as being anticipated by Reddy.

Reddy teaches a method of using—specifically drilling while circulating a drilling fluid (§§0019)—a fluid in a subterranean formation comprising introducing said fluid into the subterranean formation through a well bore (§§0001)—including pumping (§§0017)—wherein the fluid comprises a base fluid and a portion of elastic particles (Abstract, §§0006), wherein the base fluid is present at from about 30% to about 120% by weight of the cement (§§0017) and may be an aqueous or organic liquid and if organic is capable of emulsifying a water solution of salts (§§0008) and the particles are present in the range of from about 1% to about 200% by weight of the cement (§§0007), can be pre-expanded up to about 8 times their original diameter, which calculates to up to 268 times their original volume by  $4/3\pi r^3$  before being added to composition with an internal fluid—including the elected internal fluid, air (§§0007 and 0008)—are comprised of a copolymer of styrene and divinylbenzene or styrene and acrylonitrile or a terpolymer of styrene and vinylidene chloride and acrylonitrile (§§0006)—including EXPANCEL particles as exemplified by applicant (§§0008).

Since Reddy teaches the same composition as claimed, the density, compressibility and pressure and temperature resistance of the particles and the variability of the density of the fluid of the Reddy composition would inherently be the same as claimed.

The applied reference has a common assignee and at least one common inventor with the instant application. Based upon the earlier effective US filing date of the reference, it constitutes prior art under 35 USC 102(e). This rejection under 35 USC 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Claim Rejections - 35 USC § 103***

8. Claims 8-10, 34, 36-39 and 42 stand and claims 1, 6, 7, 11, 13, 14, 17, 18, 24, 26-31, 41, 43, 44, 46-47, 50-52, 54-56, 58, 88 and 89 are rejected under 35 USC § 103(a) as being unpatentable over Johnson in view of Jorda.

Johnson teaches a method of drilling and cementing a wellbore comprising drilling a wellbore including circulating a drilling fluid wherein the wellhead is positioned on the ocean floor (Column 1 Lines 8-13 and 58-61) and the assembly comprises pipe strings extending downward that are identical to pipe strings extending upward (Figure 2 and Column 2 Lines 6-9) and a riser to inject mud (Figure 3 Reference No. 53 and Column 4 Lines 15-20).

Johnson does not disclose expressly injecting a fluid of the composition claimed.

Jorda teaches a method of completing formations traversed by an oil, water or gas producing well (Column 1 Lines 10-18) comprising injecting a slurry of oil or water

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and expandable elastic particles covered with an impermeable film or layer (Column 3 Lines 1-58).

Since Jorda teaches the same composition as claimed, the density, compressibility and pressure and temperature resistance of the particles and the variability of the density of the fluid of the Jorda composition would inherently be the same as claimed.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the fluid composition of Jorda in the method of Johnson. The motivation to do so would have been to prevent contamination of the oil by water from an adjacent formation (Jorda Column 1 Lines 19-28).

9. Claims 8-10, 34, 36-39 and 42 stand rejected under 35 USC § 103(a) as being unpatentable over Johnson in view of Reddy as applied to claims 1, 6, 7, 11-22, 24-29, 40, 41, 43-47, 51-59, 88 and 89 above.

Johnson teaches a method of drilling and cementing a wellbore comprising drilling a wellbore and circulating a drilling fluid wherein the wellhead is positioned on the ocean floor and the assembly comprises pipe strings extending downward that are identical to pipe strings extending upward and a riser to inject mud as detailed above.

Johnson does not disclose expressly injecting a fluid of the composition claimed.

Reddy teaches a method of using—specifically cementing—a fluid in a subterranean formation comprising introducing said fluid into the subterranean formation through a well bore—including pumping—wherein the fluid comprises a base

fluid and a portion of elastic particles, wherein the base fluid is present at from about 30% to about 120% by weight of the cement and may be an aqueous or organic liquid and if organic is capable of emulsifying a water solution of salts and the particles are present in the range of from about 1% to about 200% by weight of the cement, can be pre-expanded up to about 8 times their original diameter, which calculates to up to 268 times their original volume by  $4/3\pi r^3$  before being added to composition with an internal fluid—including the elected internal fluid, air—are comprised of a copolymer of styrene and divinylbenzene or styrene and acrylonitrile or a terpolymer of styrene and vinylidene chloride and acrylonitrile—including EXPANCEL particles as exemplified by applicant as detailed above.

Since Reddy teaches the same composition as claimed, the density, compressibility and pressure and temperature resistance of the particles and the variability of the density of the fluid of the Reddy composition would inherently be the same as claimed.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the fluid composition of Reddy in the method of Johnson. The motivation to do so would have been to provide compositions that can withstand the cyclical stresses that occur during the life of the well (Reddy ¶10006).

The applied reference, Reddy, has at least one common inventor with the instant application. Based upon the earlier effective US filing date of the reference, it constitutes prior art only under 35 USC 102(e). This rejection under 35 USC 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed



but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective US filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 USC 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 USC 103(c) as prior art in a rejection under 35 USC 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

***Allowable Subject Matter***

10. Claims 32 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Neither Reddy nor Jorda, the closest prior art, teaches or fairly suggests a particle coating comprising a material as instantly claimed.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Timothy J. Kugel/  
Patent Examiner, AU 1796